CLAIMS

1. A valve device, comprising:

a first valve member including a first plane surface, and

a second valve member including a second plane surface facing and touching said first plane surface and being displaceable relative to said first valve member between different positions, said valve members including different liquid channels,

wherein said second valve member is adapted to connect at least two of said different channels to each other in at least one of said positions.

2. A valve device according to claim 1, wherein said second valve member is displaceable relative to said first valve member between a first position and a second position.

3. A valve device according to claim 2, wherein said first valve member has at least two separate liquid channels including first and second channels, and said second valve member is adapted to connect said first and second channels to each other, when said second valve member is in said first position, and to seal said first channel, when said second valve member is in said second position.

4. A valve device according to claim 3, wherein said separate liquid channels open on said first plane surface of said first valve member, and said second plane surface has at least one open channel forming a liquid flow connection between said first and second channels, when said second valve member is in said first position.

5. A valve device according to claim 2, wherein said first valve member has at least three separate liquid channels including first, second and third channels, and said second valve member is adapted to connect said first and second channels to each other, when said second valve member is in said first position, and to connect said first and third channels to each other, when said second valve member is in said second position.

6. A valve device according to claim 5, wherein said separate liquid channels open on said first plane surface of said first valve member, and said second plane surface has at least one open channel forming a liquid flow connection between said first and second channels, when said second valve member is in said first position, and forming a liquid flow connection between said first and third channels when said second valve member is in said second position.

7. A valve device according to claim 1, wherein said second plane surface of said second valve member is adapted to slide on said first plane surface of said first valve member.

8. A valve device according to claim 7, wherein said second plane surface of said second valve member is adapted to slide back and forth.

9. A valve device according to claim 8, further comprising an operation device for sliding said second valve member back and forth.

10. A valve device according to claim 9, wherein said operation device comprises an eccentric crankshaft and a slide connected to said crankshaft and attached to said second valve member, said slide and second valve member being moved back and forth by said crankshaft, when said crankshaft rotates.

11. A valve device according to claim 7, wherein said second plane surface of said second valve member is adapted to rotate and slide on said first plane surface of said first valve member.

12. A valve device according to claim 11, further comprising an operation device adapted to rotate said second valve member such that said second plane surface rotates and slides on said first plane surface.

13. A valve device according to claim 12, wherein said second valve member comprises a disc and said operation device comprises a drive shaft in rotational engagement with said disc.

14. A valve device according to claim 13, further comprising a motor for rotating said drive shaft.

15. A valve device according to claim 14, further comprising a control device for controlling said motor.

16. A valve device according to claim 1, wherein said first and second plane surfaces of said valve members have a smoothness such that they form a liquid seal as they touch each other.

17. A valve device according to claim 1, wherein said valve members are made of a material inert enough to maintain a low friction between said first and second plane surfaces over time.

18. A valve device according to claim 17, wherein said material comprises a ceramic material.

19. A valve device according to claim 1, further comprising an operation device adapted to displace said second valve member relative to said first valve member.

20. A valve device according to claim 19, further comprising a motor for driving said operation device.

21. A valve device according to claim 20, wherein the valve device is adapted for implantation in a human body and said motor is adapted to be controlled by a remote control outside the human body.

22. A valve device according to claim 20, wherein the valve device is adapted for implantation in a human body and said motor is designed to be powered by wireless energy emitted outside the human body.

23. A valve device according to claim 19, wherein the valve device is adapted for implantation in a human body and further comprising a control device for controlling said operation device.

24. A valve device according to claim 23, wherein said control device comprises a remote control for controlling said operation device from outside the human body.

25. An apparatus for distributing a liquid in a patient's body, comprising:

a pump adapted to be implanted in the patient to pump the liquid,

an implantable valve device adapted to direct the liquid pumped by said pump,

a first valve member of said valve device including a first plane surface, and

a second valve member of said valve device including a second plane surface facing and touching said first plane surface and being displaceable relative to said first valve member between different positions, said valve members including different liquid channels,

wherein said valve device is operable to displace said second valve member to hydraulically connect said pump to at least one of said liquid channels in at least one of said positions.

26. An apparatus according to claim 25, wherein said second valve member is displaceable relative to said first valve member between a first position and a second position.

27. An apparatus according to claim 26, wherein said first valve member has at least two separate liquid channels including first and second channels, said first channel being connected to said pump, and said second valve member is adapted to connect said first and second channels to each other, when said second valve member is in said first

position, and to seal said first channel and thus not connecting to said pump, when said second valve member is in said second position.

28. An apparatus according to claim 27, wherein said separate liquid channels open on said first plane surface of said first valve member, and said second plane surface has at least one open channel forming a liquid flow connection between said first and second channels, when said second valve member is in said first position.

29. An apparatus according to claim 26, wherein said first valve member has at least three separate liquid channels including first, second and third channels, said first channel being connected to said pump, and said second valve member is adapted to connect said first and second channels to each other, when said second valve member is in said first position, and to connect said first and third channels to each other, when said second valve member is in said second position.

30. An apparatus according to claim 29, wherein said separate liquid channels open on said first plane surface of said first valve member, and said second plane surface has at least one open channel forming a liquid flow connection between said first and second channels, when said second valve member is in said first position, and forming a liquid flow connection between said first and third channels when said second valve member is in said second position.

31. An apparatus according to claim 25, wherein said second plane surface of said second valve member is adapted to slide on said first plane surface of said first valve member.

32. An apparatus according to claim 31, wherein said second plane surface of said second valve member is adapted to slide back and forth.

33. An apparatus according to claim 31, wherein said second plane surface of said second valve member is adapted to rotate and slide on said first plane surface of said first valve member.

34. An apparatus according to claim 25, further comprising an implantable operation device adapted to operate said valve device.

35. An apparatus according to claim 34, wherein said operation device is adapted to operate said valve device such that said second plane surface of said second valve member slides back and forth on said first plane surface of said first valve member.

36. An apparatus according to claim 35, wherein said operation device comprises an eccentric crankshaft and a slide connected to said crankshaft and attached to said second valve member, said slide and second valve member being moved back and forth by said crankshaft, when said crankshaft rotates.

37. An apparatus according to claim 34, wherein said operation device also is adapted to operate said pump.

38. An apparatus according to claim 37, wherein said pump comprises a membrane pump.

39. An apparatus according to claim 38, wherein said membrane pump has a membrane that is movable by said operation device, and said operation device is adapted to move said membrane at a relatively high rate while moving said second valve member at a relatively low rate and to move said second valve member at a relatively high rate while moving said membrane at a relatively low rate.

40. An apparatus according to claim 38, wherein said membrane pump has a membrane that is movable by said operation device, and said operation device is adapted

to move said membrane while keeping said second valve member at rest and to move said second valve member while keeping said membrane at rest.

41. An apparatus according to claim 34, further comprising an implantable holder, in which said operation device, pump and valve members are mounted.

42. An apparatus according to claim 41, wherein said holder comprises an upper part, in which said operation device and valve members are mounted, and an under part, in which said pump is mounted, said upper and under parts being releasably attached to each other.

43. An apparatus according to claim 34, wherein said operation device is adapted to operate said valve device such that said second plane surface of said second valve member rotates and slides on said first plane surface of said first valve member.

44. An apparatus according to claim 43, wherein said second valve member comprises a disc and said operation device comprises a drive shaft in rotational engagement with said disc.

45. An apparatus according to claim 44, wherein said operation device also is adapted to operate said pump.

46. An apparatus according to claim 45, wherein said pump comprises a membrane pump.

47. An apparatus according to claim 46, wherein said membrane pump has a membrane and said operation device comprises a cam mechanism attached to said membrane, said drive shaft being operably connected to said cam mechanism to cause said cam mechanism to move said membrane back and forth as said drive shaft rotates.

48. An apparatus according to claim 43, further comprising an implantable at least substantially cylindrical housing, in which said operation device, pump and valve device are mounted.

49. An apparatus according to claim 25, wherein said pump comprises a membrane pump.

50. An apparatus according to claim 25, wherein said pump comprises a piston pump.

51. An apparatus according to claim 25, wherein said pump comprises a screw pump.

52. An apparatus according to claim 25, wherein said pump comprises a gear pump.

53. An apparatus according to claim 25, wherein said pump comprises a peristaltic pump.

54. An apparatus according to claim 25, wherein said first and second plane surfaces of said valve members have a smoothness such that they form a liquid seal as they touch each other.

55. An apparatus according to claim 25, wherein said valve members are made of a material inert enough to maintain a low friction between said first and second plane surfaces over time.

56. An apparatus according to claim 55, wherein said material comprises a ceramic material.

57. An apparatus according to claim 25, wherein said valve device and pump are integrated to form an operable valve pump assembly.

58. An apparatus according to claim 57, further comprising an implantable operation device adapted to operate said valve pump assembly.

59. An apparatus according to claim 58, further comprising an implantable motor for driving said operation device.

60. An apparatus according to claim 59, wherein said motor is designed to be powered by wireless energy emitted outside the patient's body.

61. An apparatus according to claim 57 further comprising an energy transmission device for wireless transmission of energy from outside the patient's body to inside the patient's body for use in connection with the operation of said valve pump assembly.

62. An apparatus according to claim 61, wherein said energy transmission device transmits energy of a first form and said valve pump assembly is operable in response to energy of a second form, and further comprising an energy transforming device implantable in the patient for transforming the energy of the first form wirelessly transmitted by said energy transmission device into the energy of the second form.

63. An apparatus according to claim 62, wherein the energy of the second form is different than the energy of the first form.

64. An apparatus according to claim 62, wherein said energy transforming device comprises at least one element having a positive region and a negative region, said element is capable of creating an energy field between said positive and negative regions when exposed to the energy of the first form transmitted by said energy transmission device, and said energy field produces the energy of the second form.

65. An apparatus according to claim 64, wherein said element comprises an electrical junction element, and said electrical junction element is capable of inducing an

electric field between said positive and negative regions when exposed to the energy of the first form transmitted by said energy transmission device, whereby the energy of the second form comprises electric energy.

66. An apparatus according to claim 62, wherein said energy transforming device is adapted to transform the energy of the first form directly or indirectly into the energy of the second form.

67. An apparatus according to claim 66, further comprising an implantable motor for operating said valve pump assembly, wherein said motor is powered by the energy of the second form.

68. An apparatus according to claim 67, wherein said valve pump assembly is operable to perform a reversible function and said motor is capable of reversing said function.

69. An apparatus according to claim 67, further comprising a control device adapted to shift polarity of the energy of the second form to reverse said motor.

70. An apparatus according to claim 67, wherein said energy transforming device is adapted to directly power said motor by the transformed energy, as the energy of the second form is being transformed from the energy of the first form.

71. An apparatus according to claim 66, wherein the wireless energy of the first form comprises sound waves and the energy of the second form comprises electric energy.

72. An apparatus according to claim 62, further comprising an energy storage device implantable in the patient for storing the energy of the second form and for supplying energy in connection with the operation of said valve pump assembly.

73. An apparatus according to claim 72, wherein said energy storage device comprises an accumulator.

74. An apparatus according to claim 73, wherein said accumulator comprises at least one capacitor or at least one rechargeable battery, or a combination of at least one capacitor and at least one rechargeable battery.

75. An apparatus according to claim 62, further comprising a source of energy implantable in the patient for supplying energy for the operation of said valve pump assembly, and a switch operable by the energy of the second form supplied by said energy transforming device to switch from an off mode, in which said source of energy is not in use, to an on mode, in which said source of energy supplies energy for the operation of said valve pump assembly.

76. An apparatus according to claim 62, further comprising an implantable stabiliser for stabilising the energy of the second form.

77. An apparatus according to claim 76, wherein the energy of the second form comprises electric current and said stabiliser comprises at least one capacitor.

78. An apparatus according to claim 61, further comprising implantable electrical components including at least one voltage level guard.

79. An apparatus according to claim 61, wherein said energy transmission device is adapted to transmit wireless energy for direct use in connection with the operation of said valve pump assembly, as the wireless energy is being transmitted.

80. An apparatus according to claim 61, wherein said energy transmission device is adapted to transmit wireless energy in the form of a magnetic field or electromagnetic waves for direct power of said valve pump assembly.

81. An apparatus according to claim 62, wherein said energy transforming device directly operates said valve pump assembly with the energy of the second form in a non-magnetic, non-thermal or non-mechanical manner.

82. An apparatus according to claim 62, wherein said energy transforming device comprises at least one semiconductor type of component.

83. An apparatus according to claim 82, wherein said semiconductor component comprises at least one element having a positive region and a negative region, said element is capable of creating an energy field between said positive and negative regions when exposed to the energy of the first form transmitted by said energy transmission device, and said energy field produces the energy of the second form.

84. An apparatus according to claim 57, wherein said valve pump assembly is operable to perform a reversible function.

85. An apparatus according to claim 84, further comprising a reversing device implantable in the patient for reversing the function performed by said valve pump assembly.

86. An apparatus according to claim 85, wherein said control device controls said reversing device to reverse the function performed by said valve pump assembly.

87. An apparatus according to claim 85, wherein said reversing device comprises hydraulic means including a valve for shifting the flow direction of a liquid flow in said hydraulic means.

88. An apparatus according to claim 85, wherein said reversing device comprises a mechanical reversing device.

89. An apparatus according to claim 85, wherein said reversing device comprises a switch.

90. An apparatus according to claim 61, wherein said energy transmission device transmits energy by at least one wireless signal.

91. An apparatus according to claim 90, wherein said signal comprises a wave signal.

92. An apparatus according to claim 91, wherein said wave signal comprises an electromagnetic wave signal including one of an infrared light signal, a visible light signal, an ultra violet light signal, a laser signal, a micro wave signal, a radio wave signal, an x-ray radiation signal, and a gamma radiation signal.

93. An apparatus according to claim 91, wherein said wave signal comprises a sound or ultrasound wave signal.

94. An apparatus according to claim 90, wherein said signal comprises a digital or analog signal, or a combination of a digital and analog signal.

95. An apparatus according to claim 62, wherein the energy of the first form transmitted by said energy transmission device comprises an electric, an electromagnetic or a magnetic field, or a combination thereof.

96. An apparatus according to claim 95, wherein said electric, electromagnetic or magnetic field, or the combination thereof is transmitted in pulses or digital pulses, or a combination of pulses and digital pulses by said energy transmission device.

97. An apparatus according to claim 62, wherein said energy transforming device transforms the energy of the first form into a direct current or pulsating direct current, or a combination of a direct current and pulsating direct current.

98. An apparatus according to claim 62, wherein said energy transforming device transforms the energy of the first form into an alternating current or a combination of a direct and alternating current.

99. An apparatus according to claim 62, wherein one of the energy of the first form and the energy of the second form comprises magnetic energy, kinetic energy, sound energy, chemical energy, radiant energy, electromagnetic energy, photo energy, nuclear energy or thermal energy.

100. An apparatus according to claim 62, wherein one of the energy of the first form and the energy of the second form is non-magnetic, non-kinetic, non-chemical, non-sonic, non-nuclear or non-thermal.

101. An apparatus according to claim 62, wherein said energy transmission device functions different from said energy transforming device.

102. An apparatus according to claim 62, wherein said energy transmission device functions similar to said energy transforming device.

103. An apparatus according to claim 62, wherein said energy transforming device is designed to be implanted subcutaneously or in the abdomen, thorax or cephalic region of the patient.

104. An apparatus according to claim 62, wherein said energy transforming device is designed to be implanted in an orifice of the patient's body and under the mucosa or intraluminar outside the mucosa of the orifice.

105. An apparatus according to claim 25, further comprising at least one sensor adapted to be implanted in the patient.

106. An apparatus according to claim 105, wherein said sensor is adapted to sense at least one physical parameter of the patient.

107. An apparatus according to claim 105, wherein said sensor is adapted to sense at least one functional parameter of a medical implant.

108. An apparatus according to claim 105, further comprising a control device for controlling said valve device and pump in response to signals from said sensor.

109. An apparatus according to claim 108, wherein said control device comprises an implantable internal control unit that directly controls said valve device and pump in response to signals from said sensor.

110. An apparatus according to claim 108, wherein said control device comprises an external control unit outside said patient's body for controlling said valve device and pump in response to signals from said sensor.

111. An apparatus according to claim 57, further comprising a control device for controlling said valve pump assembly.

112. An apparatus according to claim 111, wherein said control device comprises a remote control for controlling said valve pump assembly from outside the patient's body.

113. An apparatus according to claim 112, wherein said remote control comprises a wireless remote control.

114. An apparatus according to claim 113, wherein said wireless remote control is adapted to transmit at least one wireless control signal for controlling said valve pump assembly.

115. An apparatus according to claim 114, wherein said control signal comprises a frequency, amplitude or frequency or amplitude modulated signal.

116. An apparatus according to claim 114, wherein said control signal comprises an analog or a digital signal, or a combination of an analog and digital signal.

117. An apparatus according to claim 111, wherein said control device comprises a microprocessor.

118. An apparatus according to claim 113, wherein said wireless remote control comprises at least one external signal transmitter or transceiver and at least one internal signal receiver or transceiver implantable in the patient.

119. An apparatus according to claim 114, wherein said remote control transmits a carrier signal for carrying said control signal.

120. An apparatus according to claim 119, wherein said carrier signal comprises digital, analog or a combination of digital and analog signals.

121. An apparatus according to claim 120, wherein said signals comprise wave signals.

122. An apparatus according to claim 114, wherein said control signal comprises a wave signal comprising one of a sound wave signal, an ultrasound wave signal, an electromagnetic wave signal, an infrared light signal, a visible light signal, an ultra violet light signal, a laser light signal, a micro wave signal, a radio wave signal, an x-ray radiation signal and a gamma radiation signal.

123. An apparatus according to claim 114, wherein said control signal comprises an electric or magnetic field, or a combined electric and magnetic field.

124. An apparatus according to claim 116, wherein said remote control transmits an electromagnetic carrier wave signal for carrying said digital or analog control signal.

125. An apparatus according to claim 57, further comprising an external data communicator and an implantable internal data communicator communicating with said external data communicator, wherein said internal communicator feeds data related to said valve pump assembly back to said external data communicator or said external data communicator feeds data to said internal data communicator.

126. An apparatus according to claim 25, wherein said pump is adapted to pump liquid in a hydraulically operated urinary incontinence device adapted to be implanted in the patient's body, said second plane surface of said second valve member being adapted to slide on said first plane surface of said first valve member between a first position, in which said pump is hydraulically connected to a first channel of said liquid channels, and a second position, in which said pump is hydraulically connected to a second channel of said liquid channels, at least one of said first and second channels being adapted to be hydraulically connected to the urinary incontinence device, said first and second plane surfaces having a smoothness such that they form a liquid seal as they touch each other, and said pump being able to hydraulically operate the urinary incontinence device to close and constrict the patient's urethra and/or urine bladder to prevent leakage of urine out from the body via the urethra opening, when said second valve member is in said first position, and said urinary incontinence being able to reverse the constriction function by open the urinary incontinence device to allow the patient to urinate.

127. An apparatus according to claim 25, wherein said pump is adapted to pump liquid in a hydraulically operated anal incontinence device adapted to be implanted in the patient's body, said second plane surface of said second valve member being adapted to slide on said first plane surface of said first valve member between a first position, in which said pump is hydraulically connected to a first channel of said liquid channels, and a second position, in which said pump is hydraulically connected to a second channel of said liquid channels,at least one of said first and second channels being adapted to be

hydraulically connected to the anal incontinence device, said first and second plane surfaces having a smoothness such that they form a liquid seal as they touch each other, and said pump being able to hydraulically operate the anal incontinence device to close and constrict the patient's intestine to prevent leakage of fecal matter out from the body via the normal anal opening, when said second valve member is in said first position, and said anal incontinence device being able toreverse the constriction and open the anal incontinence device to allow the patient to defecate.

128. An apparatus according to claim 25, wherein said pump is adapted to pump liquid in a hydraulically operated vascular treatment device adapted to be implanted in the patient's body, said second plane surface of said second valve member being adapted to slide on said first plane surface of said first valve member between a first position, in which said pump is hydraulically connected to a first channel of said liquid channels, and a second position, in which said pump is hydraulically connected to a second channel of said liquid channels, at least one of said first and second channels being adapted to be hydraulically connected to the vascular treatment device, said first and second plane surfaces having a smoothness such that they form a liquid seal as they touch each other, and said pump being able to hydraulically operate the vascular treatment device to increase constriction of a vascular anerysm preventing future perforation of the anerysm, when said second valve member is in said first position, and said vascular treatment device being able to reverse the constriction and decrease the constriction if needed.

129. An apparatus according to claim 25, wherein said pump is adapted to pump liquid in a hydraulically operated vascular treatment device adapted to be implanted in the patient's body, said second plane surface of said second valve member being adapted to slide on said first plane surface of said first valve member between a first position, in which said pump is hydraulically connected to a first channel of said liquid channels, and a second position, in which said pump is hydraulically connected to a second channel of said liquid channels, at least one of said first and second channels being adapted to be hydraulically connected to the vascular treatment device, said first and second plane surfaces having a smoothness such that they form a liquid seal as they touch each other,

and said pump being able to hydraulically operate the vascular treatment device to reduce blood pressure by increasing constriction of a vascular artery , when said second valve member is in said first position, and said vascular treatment device being able to reverse the constriction to decrease the constriction and thereby increase said blood pressure.

130. An apparatus according to claim 25, wherein said pump is adapted to pump liquid in a hydraulically operated drug delivery device for delivery of a drug inside the patient's body and adapted to be implanted in the patient's body, said second plane surface of said second valve member being adapted to slide on said first plane surface of said first valve member between a first position, in which said pump is hydraulically connected to a first channel of said liquid channels, and a second position, in which said pump is hydraulically connected to a second channel of said liquid channels, at least one of said first and second channels being adapted to be hydraulically connected to the drug delivery device, said first and second plane surfaces having a smoothness such that they form a liquid seal as they touch each other, and said pump being able to hydraulically operate the drug delivery device to deliver drug , when said second valve member is in said first position, and to prevent the drug delivery device to deliver any drug, when said second valve member is in said second position.

131. An apparatus according to claim 25, wherein said pump is adapted to pump liquid in a hydraulically operated impotence treatment device including a constriction device adapted to be implanted in the patient's body, said second plane surface of said second valve member being adapted to slide on said first plane surface of said first valve member between a first position, in which said pump is hydraulically connected to a first channel of said liquid channels, and a second position, in which said pump is hydraulically connected to a second channel of said liquid channels, at least one of said first and second channels being adapted to be hydraulically connected to the constriction device, said first and second plane surfaces having a smoothness such that they form a liquid seal as they touch each other, and said pump being able to hydraulically operate the constriction device to close and constrict the vascular veins or corpus cavernosa to create penile erection, when said second valve member is in said first position, and said impotence treatment device

being able to reverse the constriction and to decrease the constriction to avoid penile erection.

132. An apparatus according to claim 25, wherein said pump is adapted to pump liquid in a hydraulically operated impotence treatment device including corpus cavernosa implants adapted to be implanted in the patient's body, said second plane surface of said second valve member being adapted to slide on said first plane surface of said first valve member between a first position, in which said pump is hydraulically connected to a first channel of said liquid channels, and a second position, in which said pump is hydraulically connected to a second channel of said liquid channels, at least one of said first and second channels are adapted to be hydraulically connected to the constriction device, said first and second plane surfaces having a smoothness such that they form a liquid seal as they touch each other, and said pump being able to hydraulically operate the impotence treatment device to fill the corpus cavernosa implants to create penile erection, when said second valve member is in said first position, and said impotence treatment device being able to reverse the filling of said corpus cavernosa implants and to at least partly empty the implants.

133. An apparatus according to claim 25, wherein said pump is adapted to pump liquid in a hydraulically operated reflux disease treatment device for constricting the cardia region, lower oesophagus or upper part of the stomach and adapted to be implanted in the patient's body, said second plane surface of said second valve member being adapted to slide on said first plane surface of said first valve member between a first position, in which said pump is hydraulically connected to a first channel of said liquid channels, and a second position, in which said pump is hydraulically connected to a second channel of said liquid channels, at least one of said first and second channels being adapted to be hydraulically connected to the reflux disease treatment device, said first and second plane surfaces having a smoothness such that they form a liquid seal as they touch each other, and said pump being able to hydraulically operate the reflux disease treatment device to close and constrict the cardia region, lower oesophagus or upper part of the stomach to prevent leakage of acid up into esophagus, when said second valve member is in said first

position, and said reflux disease treatment devicebeing able to reverse the constriction and to open the reflux disease treatment device, so that the patient is able to swallow food.

134. An apparatus according to claim 25, wherein said pump is adapted to pump liquid in a hydraulically operated obesity treatment device for restricting the cardia region, lower oesophagus or upper part of the stomach and adapted to be implanted in the patient's body, said second plane surface of said second valve member being adapted to slide on said first plane surface of said first valve member between a first position, in which said pump is hydraulically connected to a first channel of said liquid channels, and a second position, in which said pump is hydraulically connected to a second channel of said liquid channels, at least one of said first and second channels being adapted to be hydraulically connected to the obesity treatment device, said first and second plane surfaces having a smoothness such that they form a liquid seal as they touch each other, and said pump being able to hydraulically operate the obesity treatment device to increase the restriction of the cardia region, lower oesophagus or upper part of the stomach to restrict food intake, when said second valve member is in said first position, and said obesity treatment device being able to reverse the restriction and to decrease the restriction of the obesity treatment device, so that the patient is able to increase food intake.

135. An apparatus according to claim 25, wherein said pump is adapted to pump liquor in a hydraulically operated hydrocephalus treatment device including a liquid conduit adapted to be positioned between the liquor room in the patient's brain and the abdominal cavity, said second plane surface of said second valve member being adapted to slide on said first plane surface of said first valve member between a first position, in which said pump is hydraulically connected to a first channel of said liquid channels, and a second position, in which said pump is hydraulically connected to a second channel of said liquid channels, at least one of said first and second channels being adapted to be hydraulically connected to the hydrocephalus treatment device, said first and second plane surfaces having a smoothness such that they form a liquid seal as they touch each other, and said pump being able to hydraulically operate the hydrocephalus treatment device to distribute

liquid between the liquor room in the brain and the abdominal cavity, when said second valve member is in said first position, and to prevent the hydrocephalus treatment device from distributing liquid between the liquid room in the brain and the abdominal cavity, when said second valve member is in said second position.

136. An apparatus according to claim 25, wherein said pump is adapted to pump liquid in an implantable hydraulically operated ascites treatment device including a liquid conduit between the the abdominal cavity and the vein and/or lymphatic system in the patient's body, said second plane surface of said second valve member being adapted to slide on said first plane surface of said first valve member between a first position, in which said pump is hydraulically connected to a first channel of said liquid channels, and a second position, in which said pump is hydraulically connected to a second channel of said liquid channels, at least one of said first and second channels being adapted to be hydraulically connected to the ascites treatment device, said first and second plane surfaces having a smoothness such that they form a liquid seal as they touch each other, and said pump being able to hydraulically operate the ascites treatment device to distribute liquid from the abdominal cavity into the vein and/or lymphatic system of the patient's body, when said second valve member is in said first position, and to prevent the ascites treatment device from distributing liquid from the abdominal cavity, when said second valve member is in said second position.

137. An apparatus according to claim 25, wherein said pump is adapted to pump liquid in an implantable hydraulically operated intestinal stomy treatment device including a constriction device for constricting the patient's intestine to prevent accidental discharge of fecal matter and for releasing the intestine to allow discharge of fecal matter, said second plane surface of said second valve member being adapted to slide on said first plane surface of said first valve member between a first position, in which said pump is hydraulically connected to a first channel of said liquid channels, and a second position, in which said pump is hydraulically connected to a second channel of said liquid channels, at least one of said first and second channels being adapted to be hydraulically connected to

the intestinal stomy treatment device, said first and second plane surfaces having a smoothness such that they form a liquid seal as they touch each other, and said pump being able to hydraulically operate the intestinal stomy treatment device to close and constrict the intestine to prevent leakage of fecal matter out from the body via the intestinal stomy, when said second valve member is in said first position, and said intestinal stomy treatment device being able to reverse the constriction and to open the intestinal stomy treatment device to allow the patient to defecate.

138. An apparatus according to claim 25, wherein said pump is adapted to pump liquid in an implantable hydraulically operated intestinal disease treatment device including a constriction device for constricting the patient's intestine to prevent accidental discharge of fecal matter and for releasing the intestine to allow discharge of fecal matter, the patient being operated with reduction of intestinal length and the intestine still being connected to the normal anal outlet for discharge of fecal matter, said second plane surface of said second valve member being adapted to slide on said first plane surface of said first valve member between a first position, in which said pump is hydraulically connected to a first channel of said liquid channels, and a second position, in which said pump is hydraulically connected to a second channel of said liquid channels, at least one of said first and second channels are adapted to be hydraulically connected to the intestinal disease treatment device, said first and second plane surfaces having a smoothness such that they form a liquid seal as they touch each other, and said pump being able to hydraulically operate the intestinal disease treatment device to close and constrict the intestine to prevent leakage of fecal matter out from the body via the anal opening, when said second valve member is in said first position, and said intestinal disease treatment device being able to reverse the constriction and to open the intestinal disease treatment device to allow the patient to defecate.

139. An apparatus according to claim 25, wherein said pump is adapted to pump fecal matter from an implantable intestinal treatment device to allow discharge of fecal matter, the patient being operated with reduction of intestinal length and the intestine being connected to either the normal anal outlet for discharge of fecal matter and/or the intestine

being connected to a stomy outlet for discharge of fecal matter, said second plane surface of said second valve member being adapted to slide on said first plane surface of said first valve member between a first position, in which said pump is hydraulically connected to a first channel of said liquid channels, and a second position, in which said pump is hydraulically connected to a second channel of said liquid channels, at least one of said first and second channels being adapted to be hydraulically connected to the intestinal disease treatment device, said first and second plane surfaces having a smoothness such that they form a liquid seal as they touch each other, and said pump is able to operate the intestinal treatment device to pump fecal matter out from the body via an intestinal stomy and/or the anal opening, when said second valve member is in said first position, and to prevent the intestinal disease treatment device from discharging fecal matter, when said second valve member is in said second position.

140. An apparatus according to claim 25, wherein said pump and valve device are incorporated in a valve pump assembly adapted to be implanted in the heart or vascular system of a patient's body to help the heart to pump blood to prevent heart insufficiency, said second plane surface of said second valve member being adapted to slide on said first plane surface of said first valve member between a first position, in which said pump is hydraulically connected to a first channel of said liquid channels, and a second position, in which said pump is hydraulically connected to a second channel of said liquid channels, said first and second plane surfaces having a smoothness such that they form a liquid seal as they touch each other, and said first and second channels being adapted to connect to the patient's artery system such that said pump pumps the blood, when said second valve member is in said first position, and sucks the blood, when said second valve member is in said second position.

141. An apparatus to claim 25, wherein said pump is adapted to pump bile acid from an implantable bile acid treatment device to allow discharge of bile acid from the liver, gallbladder and/or its connections into the intestine, the patient otherwise being unable to have adequate flow of bile acid, said second plane surface of said second valve member is adapted to slide on said first plane surface of said first valve member between a first

position, in which said pump is hydraulically connected to a first channel of said liquid channels, and a second position, in which said pump is hydraulically connected to a second channel of said liquid channels, at least one of said first and second channels are adapted to be hydraulically connected to the bile acid treatment device, said first and second plane surfaces have a smoothness such that they form a liquid seal as they touch each other, and said bile acid treatment device being able to pump bile acid from the liver, gallbladder and/or its connections into the intestine, when said second valve member is in said first position, and to prevent the bile acid treatment device from discharging of bile acid, when said second valve member is in said second position.